

**Notice of Allowability**

Application No.

09/592,532

Examiner

Samuel Broda

Applicant(s)

GREIFFENHAGEN ET AL.

Art Unit

2123

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Applicants' Reply mailed on 12 August 2004.
2. ☒ The allowed claim(s) is/are 1-15.
3. ☐ The drawings filed on \_\_\_\_\_ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All   b) ☐ Some\*   c) ☐ None   of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☒ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 2 September 2004
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

*SBroda*

**SAMUEL BRODA, ESQ.  
PRIMARY EXAMINER**

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1. This communication is in response to Applicants' Reply Under 35 U.S.C. [sic] §1.111 mailed on 12 August 2004. Claims 1-2, 5, 12, and 14 were amended; claim 15 was added. Claims 1-15 are pending.

### ***Drawings***

2. New corrected (formal) drawings in compliance with 37 CFR 1.121(d) are required in this application because the application contains informal drawings. Applicants are advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

### ***Withdrawal of Rejections Under Section 112***

3. Applicants' claim amendments and arguments are sufficient to remove the rejections under Section 112, first and second paragraphs.

### ***Examiner's Amendment***

- 4.1 An Examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to Applicants, an amendment may be filed as provided by 37

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CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The amendment to claim 14 corrects an obvious grammatical error.

**4.2** The application has been amended as follows:

In Claim 14, line 1, change the claim status from:

“Original”

to:

--Currently Amended--.

***Reasons for Allowance***

**5.** The following is an Examiner’s statement of reasons for the indication of allowable subject matter:

The closest prior art of record shows:

(1) a method of modeling each pixel as a mixture of Gaussians and using an on-line approximation to update the model (Stauffer et al, “Adaptive Background Mixture Models for Real-Time Tracking”);

(2) a sample refinement method of multiple mode probability density estimation using a set of sequential datasets taken from video frames (Cham et al, U.S. Patent 6,353,679);

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(3) a method of coupled hidden Markov models and synthetic agents used for developing prior models (Oliver et al, "A Bayesian Computer Vision System for Modeling Human Interactions"); and

(4) a combination of a peripheral sensing agent that performs global monitoring tasks and a foveal sensing agent that performs focused monitoring tasks (Cui et al, "Indoor Monitoring Via the Collaboration Between a Peripheral Sensor and Foveal Sensor").

**5.1** Applicants' first set of claims consists of claims 1-13 and 15.

Independent claim 1 is directed to a method for visually locating and tracking an object through a space. This claim identifies the distinct steps of: "deriving statistical models for errors, including quantifying an indexing step performed by an indexing module, and tuning system parameters, wherein each statistical model is a candidate hypothesis for object location" and "locating the object according a candidate hypothesis evaluated to satisfy the likelihood model."

Because the closest prior art does not appear to teach or suggest the use of an indexing step in conjunction with a candidate hypothesis for object location, claims 1-13 and 15 are deemed allowable.

**5.2** Applicants' second set of claims consists of claim 14.

Independent claim 14 is directed to a computer program product for locating and tracking an object through a space. This claim identifies the distinct steps of: "computer readable

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program code for causing a computer to derive statistical models for errors, including quantifying an indexing step, and tuning system parameters, wherein each statistical model is a candidate hypothesis for object location” and “computer readable program code for a causing a computer to locate the object according a candidate hypothesis evaluated to satisfy the likelihood model.”

Because the closest prior art does not appear to teach or suggest the use of an indexing step in conjunction with a candidate hypothesis for object location, claim 14 is deemed allowable.

6. Any comments considered necessary by Applicants must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

7. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Samuel Broda, whose telephone number is (571) 272-3709. The Examiner can normally be reached on Mondays through Fridays from 8:00 AM – 4:30 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner’s supervisor, Kevin Teska can be reached at (571) 272-3716. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist, whose telephone number is (571) 272-2100.



**SAMUEL BRODA, ESQ.  
PRIMARY EXAMINER**